

Bluetooth Adapt Spvr Port Bluetooth Supervisor Port Adaptor

Bluetooth Supervisor Port Adaptor



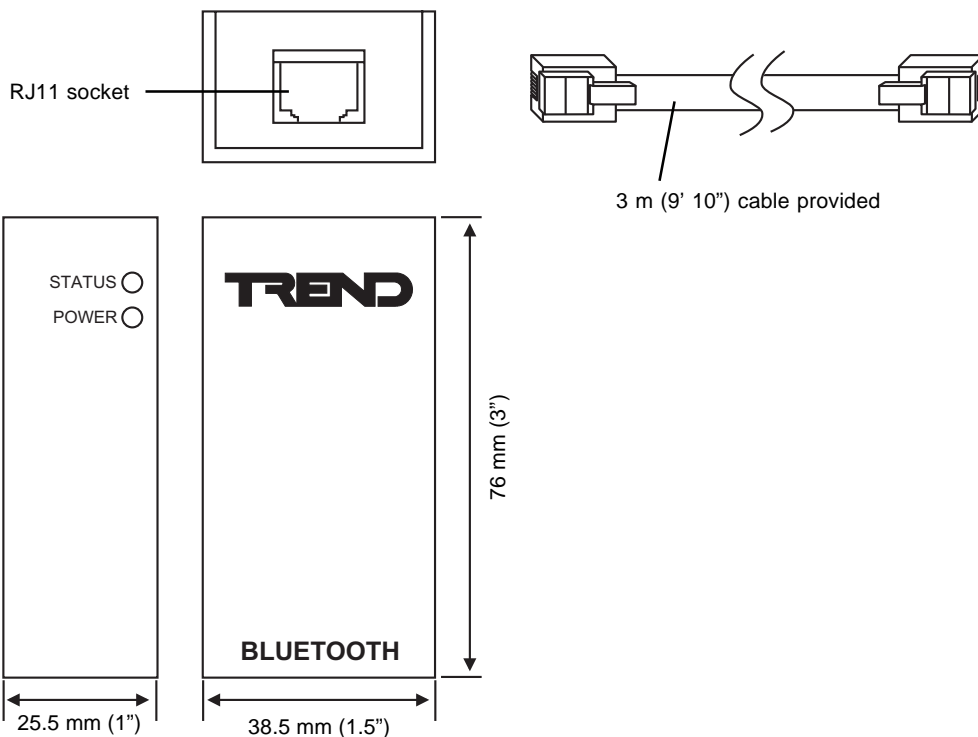
Description

The Trend Bluetooth Supervisor Port Adaptor enables SET or 916 to interrogate and configure the Trend Building Management System using wireless communication. It is designed to provide a temporary connection for commissioning purposes. The Bluetooth adaptor plugs into an IQ's local supervisor port, or a CNC2's RS232 port, and will communicate with any Bluetooth enabled laptop or handheld computer. Additional adaptor cables are available for use with older IQs or CNC2s.

Features

- Simple wireless connectivity
- 'Walk around' commissioning
- Enables PCs with only a USB port to be used for commissioning (via USB/Bluetooth adaptor)

Physical



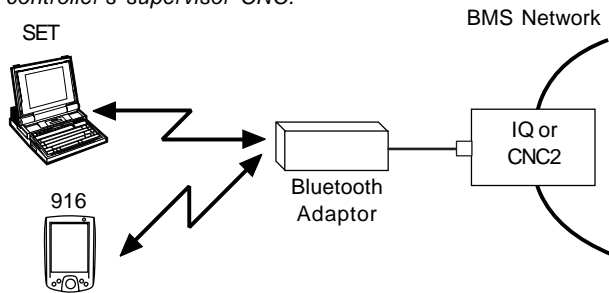
FUNCTIONALITY

Bluetooth is an industrial specification for personal area networks (PANs) also known as IEEE 802.15.1. It is used extensively on a number of new products such as phones, printers, modems, and headsets. The vast majority of handheld computing devices are now supplied with Bluetooth connectivity as are higher specification Laptop PCs. Simple USB adaptors in the form of USB stick-type devices are also readily available at low cost for use with PC equipment operating Windows 98SE onwards.

SYSTEM

The Bluetooth Supervisor Port Adapter (BSPA) is envisaged to be used to communicate with SET running on a Bluetooth enabled laptop, which will enable engineers to pre-commission, commission, and witness check a system while walking around local to the plant. It also enables a 916 supervisor running on a Bluetooth enabled handheld computer (or laptop) to be used for monitoring and supervisory control of a system.

Note that if controller supervisor port address (in address module) is set to zero, the software will only be able to communicate with the single controller whereas if the supervisor port address is set non-zero it will be able to communicate with any controllers connected to the network by using the local controller's supervisor CNC.



The BSPA operates as a slave device to SET (v6.02 or later) or 916 (which acts as a master Bluetooth device).

Depending on the type of Bluetooth device in the laptop or handheld device the range may be between 10 to 30 m (10 to 33 yds).

Bluetooth Compatibility and Range

The Trend BSPA uses Bluetooth version 2.0 + EDR (Enhanced Data Rate) which is capable of faster transmission rates than the older Bluetooth standards. It will also communicate with devices using Bluetooth version 1.1 and 1.2.

The Trend Bluetooth Supervisor Port Adaptor is a Class 1 Bluetooth device. This means it has an output power of up to 100 mW and supports a line-of-sight range of up to 100 m (109 yds)*.

Class 2 Bluetooth devices have a maximum output power of 2.5 mW and a limited range of up to 10 m (10 yds).

For optimal range, the Bluetooth device in the laptop or handheld should also be Class 1, although it can communicate with a Class 2 device at a reduced range.

Note that most PDAs and PCs with built-in adaptors are Class 2 Bluetooth devices.

*Interference from or with other radio transmitters should not be experienced. Microwave ovens can interfere with the signal. The signal will be significantly attenuated by metal, water, and concrete. Communications are normally possible between the rooms of a building.

For practical purposes the range of the Trend BSPA when communicating with another Class 1 Bluetooth device should be taken as up to 25 m (27 yds).

Configuring the Laptop or Handheld

The computer will have a Bluetooth driver that will enable the local Bluetooth devices to be browsed. The devices found may include modems, phones etc, but will be identified by their device type and their Bluetooth names. The Trend BSPA is identified as a desktop computer named 'TREND Bluetooth xxxx'. Where 'xxxx' is the serial number as written on the label on the rear of the Trend BSPA.

The Bluetooth driver will request a PIN code which should be entered as '9999'.

The Bluetooth driver will identify the port number being used. The port number and baud rate (9600 baud) should then be set up in the Trend software (SET or 916).

HARDWARE

Box: The unit is housed in a high impact polystyrene box.

LEDs: There are two LED indicators on the side of the BSPA box:
 Power: (green) Is illuminated when power is supplied to the device. If this LED does not light or is dim, either the cable is faulty or the supervisor port does not supply power.
 Status: (blue) Is illuminated when the device receives valid data (i.e is communicating with PC or Handheld)

Connector: The RJ11 socket carries the RS232 signals and power.

Power: The unit requires 6 to 24 Vdc unregulated at 60 mA. This is supplied from the local supervisor port of all recent IQ controllers. Earlier IQ controllers and the CNC2 require the use of an additional power supply (or connection to the IQ's auxiliary power supply).

Cable: The unit is supplied with a 3 m (9' 10"), RJ11 plug to RJ11 plug, 6 way cable.

INSTALLATION

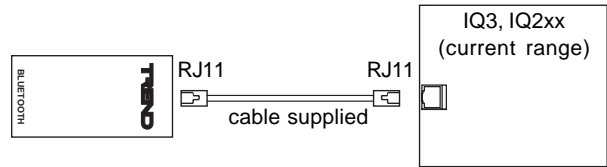
The installation involves:

- Plug the BSPA into the IQ or CNC2 using an additional adaptor cable if required.
- Check the green Power LED is illuminated
- Configure the Bluetooth driver in the computer being used to communicate with the BSPA
- Configure the port number and baud rate into the software application being used (916 or SET)
- Communicate with the device
- Check the blue Status LED is illuminated
- Test the system

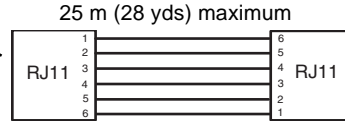
The installation is covered in detail in the Bluetooth Adapt Spvr Prt installation instructions TG200977.

CONNECTIONS

Local supervisor port RJ11 carries signal and power for: All IQ3s, IQ204, later IQ21x, later IQ22x, IQ23x, later IQ241/242, IQ246



If required a cable can be made to the required length, wired as shown.

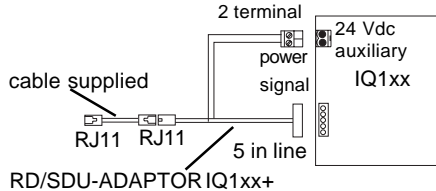


The local supervisor port of certain controllers doesn't supply 24 Vdc power, so an adaptor cable must be used in addition to the cable supplied. The controllers involved and use of the cable is described in the table and diagrams below:

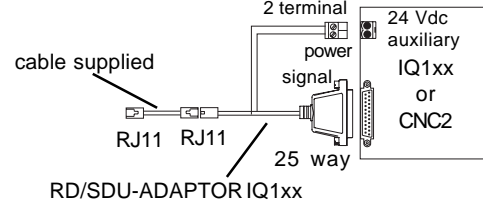
Controller	Supervisor connector	Sufficient power	Adaptor cable
IQ7x, IQ9x, IQ9xe, IQ10x, early IQ1xx+	5-pin	No	SDU/RD ADAPTOR IQ1XX+
IQ11x, IQ13x, IQ15x, CNC2	25-way D-type	No	SDU/RD ADAPTOR IQ1XX
IQ8xe, later IQ1xx+, IQ25x	RJ11	No	SDU/RD ADAPTOR IQ2XX
IQ204, IQ23x, IQ246,	RJ11	Yes	not required
*IQ21x prior to 1/6/01, IQ22x prior to 12/8/98, IQ241/IQ242 prior to 16/1/98	RJ11	No	SDU/RD ADAPTOR IQ2XX
*IQ21x after 1/6/01, IQ22x after 12/8/98, IQ241/IQ242 after 16/1/98	RJ11	Yes	not required
IQ22x/ADL	25-way D-type	No	ADAPTOR BLUETOOTH-IQ22X/ADL
IQ3	RJ11	Yes	not required

***Note:**
 IQ21x, 22x, 241/242 with 8 or 15 character serial numbers all require an adaptor.
 Those with 16 character serial numbers require analysis of the date code in the number in order to decide if an adaptor is required:
 16 character codes were used after 1/6/97 and have the year and month coded into the 10th to 12th characters (10th character - last digit of year, 11th and 12th characters - month), e.g.
 16/1/98: IQ*****801****
 12/8/98: IQ*****808****
 1/6/01: IQ*****106****

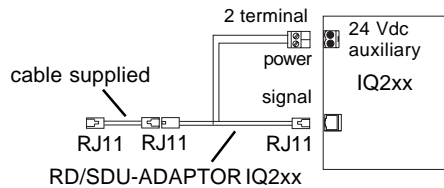
For early IQ1xx with a 5 in line RS232 connector the additional adapter RD/SDU-ADAPTOR IQ1xx+ can be used



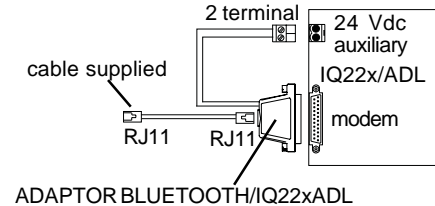
For CNC2 or early IQ1xx with a 25 way RS232 connector the additional adapter RD/SDU-ADAPTOR IQ1xx can be used



For later IQ1xx, early IQ21x, early IQ22x, early IQ24x, and IQ250/251 the additional adaptor RD/SDU-ADAPTOR IQ2xx can be used



For IQ22x/ADL remove the modem and plug in the additional adaptor ADAPTOR BLUETOOTH/IQ22x-ADL.




DISPOSAL

COSHH (Control Of Substances Hazardous to Health - UK Government Regulations 2002) ASSESSMENT FOR DISPOSAL OF BLUETOOTH ADAPT SPVR PRT. No parts affected.

RECYCLING.

All plastic and metal parts are recyclable. The printed circuit board may be sent to any PCB recovery contractor to recover some of the components for any metals such as gold and silver.



WEEE Directive :

At the end of their useful life the packaging and product should be disposed of by a suitable recycling centre.
 Do not dispose of with normal household waste.
 Do not burn.

COMPATIBILITY

IQ controllers: The BSPA can be connected to any version of IQ controller with an RS232 port. Certain earlier controllers require that the 24 V supply to the BSPA be separately connected as shown in the 'Connections' section above.

Note that the 916 and SET require IQ1s to be greater than version 5 firmware.

CNC2: Can be connected using the RD/SDU-IQ1xx adaptor as shown in the 'Connections' section.

Laptop or Handheld: The Bluetooth device used by the Laptop or Handheld should be Bluetooth version 2.0, 1.2, or 1.1. Bluetooth Class 1 is recommended for optimal range.

Supervisor: Bluetooth can communicate with any 916 and SET v6.02 or greater.

International use:

Europe: CE approvals (Class 2 under R&TTE directive 1999/5/EC) apply across the European Community and EFTA. Currently certain restrictions apply in France, Italy, and Holland.

USA, Canada: FCC part 15C.

ORDER CODES

BLUETOOTH ADAPT SPVR PRT :Bluetooth supervisor port adaptor (BSPA) with 3 m RJ11 to RJ11 cable.

RD/SDU-IQ2 COMMSCABLE/3M :Spare 3 m RJ11 to RJ11 cable

ADAPTOR BLUETOOTH/IQ22x-ADL :RJ11 socket to 25 way plug + 2 wide pwer terminals for connection to IQ2xx/ADL

RD/SDU-ADAPTOR IQ2xx :RJ11 socket to RJ11 plug + 2 wide power terminals adaptor cable for BSPA connection to later IQ1xx and early IQ2xx controllers; used in conjunction with RJ11 to RJ11 cable supplied with BSPA

RD/SDU-ADAPTOR IQ1xx+ :RJ11 socket to 5 in line socket (RS232) + 2 wide power terminals adaptor cable for BSPA connection to early IQ1xx series controllers; used in conjunction with RJ11 to RJ11 cable supplied with BSPA

RD/SDU-ADAPTOR IQ1xx :RJ11 socket to 25 Way D type male (RS232) + 2 wide power terminals adaptor cable for RD-IQ connection to CNC2 and early IQ1xx series controllers; used in conjunction with RJ11 to RJ11 cable supplied with BSPA

SPECIFICATION

Electrical

Input power supply :6 to 24 Vdc unregulated at 60 mA

Bluetooth
Version :2.0+EDR
Class :Class 1

Output power :100 mW (maximum)

Frequency :2.4 GHz (2.402 to 2.480 GHz AFH, adaptive frequency hopping)

Transmission latency :10 ms to 15 ms

Range :100 m, 109 yds (nominal) to Class 1 device, 25 m (27 yds) in-building expected range. Reduce to 10 m (10 yds) if communicating with Class 2 Bluetooth device.

Bluetooth Operation
Device type :Desktop computer
Device Name :TREND Bluetooth xxxx (where 'xxxx' is serial number on unit's rear label)
Password (PIN) :9999

Indicators
Power :Green LED, Illuminated when power is applied
Status :Blue LED, Illuminated when communicating with another Bluetooth device.

Serial port
Baud rate :9600 Baud
Parity :8 bits, no parity, 1 stop bit

Note that the adaptor will operate succesfully with 7 bits, odd or even parity bit, 1 stop bit as long as the parity bit is generated by the driving software (i.e as per SET, 916); the adaptor will not generate the parity bit.

Mechanical

Material :(box) 3mm high impact polystyrene

Dimensions :76 mm (3") x 38.5 mm (1.5") x 25.5 mm (1")

Weight :42 g (1.48 oz) + cable; 62 g (2.18 oz)

Connector :RJ11 socket

Cable :(supplied) RJ11 plug to RJ11 plug, 3 m, 6 way

Environmental

Temperature :-40 °C (-40 °F) to +85 °C (+185 °F)

Humidity :0 to 90 %RH

Protection :IP20, NEMA 1

European Commission :R&TTE Directive 1999/5/EC Class 2 (restricted in Italy, France, and Holland)

USA/Canada :FCC 15C, Contains transmitter module FCC ID: QOQWT11

Bluetooth :The radio has been prequaliaified and is listed in the Bluetooth Qualified Products as B03005. Flexipanel Ltd is registered as Adopted Member with the Bluetooth SIG, Inc.

Version :LMDr6

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Trend Control Systems Limited reserves the right to revise this publication from time to time and make changes to the content hereof without obligation to notify any person of such revisions or changes.

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